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AUTHOR Boyer, Ernest L.
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ABSTRACT

This paper suggests three educational changes that need to be made in light of the changing relationship between the student and the institution. First, a closer relationship between colleges and elementary and secondary schools must be built. Since a majority of high school students go on to college, educators from the separate levels must focus on education of youth in general, rather than on the separateness of their institutions. Elementary, secondary, and higher education leaders need to examine the full range of education and build a better academic sequence. Secondly, education must become more flexible in terms of calender and location. With changing student age patterns, and with paperbacks, magazines, television, and travel now competing on an equal basis with the classroom and the book, education must modify schedules and locations to meet the changing needs of students. Finally, education must be more purposeful. While recognizing the uniqueness of each student, educators must search for a new common core of study that draws upon the traditional and emerging academic disciplines in order to focus on experiences common to all students. Educators must seek a closer relationship between curriculum and the nation's social goals. (Author/JK)

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TWENTY YEARS AFTER SPUTNIK:

IMPERATIVES IN AMERICAN EDUCATION TODAY *

Ernest L. Boyer

U.S. Commissioner of Education

Twenty years ago last week, the attention of the world was riveted on a 184-pound object in the sky.

The Soviets had electrified this planet by putting Sputnik into orbit, and Americans, especially, were both angry and afraid. After all, if a satellite could be lifted into space, what more lethal object might be targeted toward our continent here on earth?

At that time, one issue seemed absolutely clear. Somehow--everyone agreed--a direct link existed between education and the world's first satellite.

President Eisenhower declared that

> Young people now in college must be equipped to live in an age of intercontinental ballistic missiles.

James B. Conant warned that

> Many people are quite unconscious of the relation between high school education and the welfare of the United States. They are

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still living in imagination in a world which knew neither nuclear weapons nor Soviet imperialism.

Our response to Sputnik was urgent and specific:

The National Defense Education Act was passed by Congress to support teachers of sciences, mathematics, and foreign languages.

The Conant Report called for special programs for the gifted student.

Curriculum reform exploded everywhere--the "new" math, the "new" physics, the "new" biology.

The National Science Foundation grew rich and supported science departments and young talent in the schools.

In short, American education moved forward with great imagination. The notion that our schools and colleges are sluggish and self-serving is just not supported by our vigorous response.

* * *

Twenty years have passed since Sputnik, and today there is a new, more subtle urgency in the air. There is a growing conviction in our midst that we must once again reform our colleges and schools while still holding to the essentials of academic life, which are deeply cherished.

Indeed, the central topic of this conference illustrates the point.

Your theme is change--the changing relationship between the student and the institution. And in the opening session of this

ACE convention--two decades after humanity's first deep probe into space--I'd like to focus on three changes which I believe are absolutely crucial as we move toward the year 2000.

I

First--because of changing students, and our changing social context, education must become more coordinated. We must build a closer relationship between our colleges and schools.

Over 50 years ago, Henry Clinton Morrison observed that

> As a people, we do not think in terms of education, we think in terms of schools. We have no educational system; we have an elementary school, a high school, and a college.

Now, it just may be that a layer-cake approach to education made sense--50 years ago. At <u>that</u> time each academic level had a special mission all its own--and each institution served its own special group of students.

In 1920, for example, most young Americans had what was called a grade school education. Only 20 percent of our teenagers went on to secondary school. And, most significantly for this audience, only 15 percent of high school graduates in 1920 went on to college.

At that time, the elementary school, the high school, and the college had separate and unique jobs to do. Only a very narrow and a very specialized band of students moved precariously along the academic spectrum.

The majority of students were turned away by artificial barriers, and our advanced schools and colleges could carry on their work in splendid isolation.

But, for several decades now, the student population has shifted quite dramatically, and isolation will no longer do.

In 1918, after World War I, an NEA report called for universal secondary education. The objective was to teach "democracy" and "citizenship" and to educate the children of all immigrants.

The impact of this new vision was quickly felt. In 1930 only 50 percent of the Nation's youth was enrolled in secondary school. The figure rose to 76 percent in 1950. And by 1970 more than 92 percent of America's teenagers were high school students.

Again, after World War II, another shift occurred, this time at the higher education level. GI's, whose parents never went to college, came to campuses once ruled off limits. Furthermore, once GI's had enrolled, they found that they could excel academically. The push for open access was moving upward.

In 1940, before World War II, 35.7 percent of America's high school graduates went on to college. The figure increased to 42.7 percent in 1950, and in 1960 it had moved to almost 50 percent.

At long last, America had committed itself to equal opportunity. The artificial education barriers had been broken. The clear majority of our students -not just the privileged few--was going on to high school and then on to college.

Here's the crucial point: After World War II, for the first time in our history, educators at all levels shared a common vision and were called upon to serve a common group of students.

And yet--unhappily--the structure of our schools never quite caught up with the social facts of life. Educators continued to operate our institutions as if they were unrelated to each other.

And today those structural distances still persist.

Elementary and high school teachers infrequently meet together.

College administrators rarely sit down with their counterparts.

Universities fix admission standards without consulting colleagues in the schools.

I believe the time has come for educators from the separate levels to focus increasingly on education, rather than on their separate institutions. It's time to recognize that--while school and college administrators may be able to survive the Rube Goldberg approach to planning--the students are the ones who face the curricular gaps and overlaps. The students are the ones who are caught in our academic cul-de-sacs. Clearly, the biggness of our job requires that we engage occasionally at least in interlevel planning.

In 1945, Harvard College produced its now famous general education report, commonly called the "Redbook". The nations had been devastated by a terrible war, and the Redbook called for a general education curriculum to give new meaning to a shattered world.

Colleges and universities all across the country copied Harvard's proposals for reform--which, incidentally, the Harvard faculty did not itself adopt.

What is less well remembered is that more than half of the Redbook pages talked not about the collegiate course of study but about the secondary school curriculum.

The report recognized quite clearly that it is irresponsible to propose curriculum reform in higher education without looking at the school as well.

Interestingly enough, over 50 years before the famous Redbook--when only 29 percent of America's young adult population was going on to college--the Nation's leading universities, led by Charles Eliot of Harvard, were troubled by the lack of coordination between the elementary school, the high school, and the college. At that time, each level was charging off quite independently. Each level was adding years of study to its program, and each level was designing curriculum on its own.

In the midst of this confusion, a committee of ten was formed--composed of school and college people--to look at the full range of education from the early years to college and to build a better academic sequence.

I believe the time for such leadership has arrived again. I'd like to see a group of elementary, secondary, and higher education leaders--joined by citizens and teachers--come together to look at the total academic situation. Such a panel might look at some very basic questions:

1. How can we teach the basic skills?

2. How can the junior high school provide smooth transition between the lower and the upper grades?

3. How can the senior high school provide more options while still promoting excellence?

4. How can the high school and the college general education curriculum be more sharply focused and more fully integrated?

5. How can colleges and universitites serve more effectively the older student?

These and other issues need to be addressed.

The goal is not to dominate, but to be supportive, to recognize that we should serve our students, not isolated institutions. And as we share resources and develop common strategies, I'm convinced education in America can achieve the excellence we all support.

II

Next, because of our changing social context and our changing students, I believe education must become more flexible--in terms of calendar and location.

During most of our academic history, schools and colleges were constructed for the very young:

Classes were scheduled Monday through Friday--9 to 4--coinciding with the world of work.

Students were expected to pursue their studies, full time, before entering the "real world" outside.

To be a "dropout" was a social stigma--a label to be avoided at all cost.

Now much of this has begun to change and the implications for education are enormous.

First, America's demographic profile has taken a dramatic shift. The so-called "baby boom" has now become an "adult age bulge." In this decade alone, the number of Americans in the 50-59 age bracket will rise by 17 percent--and the number of those over 60 will increase by 35 percent.

During the past 50 years there have also been dramatic changes among the Nation's youth. Teenagers now mature physically two full years earlier than when our parents were quite young. As one young wit remarked--if Booth Tarkington were writing Seventeen today, he'd have to title it Fifteen, because the characteristics he described now appear much earlier.

To add to the confusion, the well ordered adult world is also beginning to break up.

In 1900, the average American work week was 62 hours; by 1945 it had dropped to 43; and today it is 36 1/2 hours.

And, most significantly, the number of older students going on to college continues to increase. Today approximately a third of our college students are 25 years of age or older--and more than 50 percent are part-time.

Not only has the student age pattern begun to change, but the location of learning has shifted, too.

When I was young there was, of course, no television in our home.

I was 12 years old before we purchased our first radio.

We did receive a daily newspaper, and the National Geographic, which I eagerly devoured as soon as it arrived.

Our Model A took us on short excursions from our Ohio home, rarely more than 100 miles or so.

As I look back on those early years, school was the central learning place. The teacher--for better or for worse--was the key source of knowledge, and the classroom was the intellectual window to the world. (It was only later on that I learned just how clouded that window could sometimes be.)

Today that world I knew is ancient history. Young children--2 to 5 years old--now watch television over 4 hours every day, nearly 30 hours every week. That's more than 1,500 hours every year, and by the time a youngster enters first grade he or she has had 6,000 hours of television viewing.

This same TV saturation continues after school begins, and very often the traditional teacher is bypassed. A new source of information has emerged.

Several years ago our young son, who had just entered kindergarten, said the alphabet one night when we went to bed--rather than his prayers. At the end I complimented him for having recited the alphabet without a hitch--even though he had been in kindergarten just one week. He replied by saying:

> Actually, I learned the alphabet on Sesame Street--
> but my kindergarten teacher thinks she taught it
> to me.

I was delighted. My son had not only learned the alphabet; he had learned the system too!

Whatever else we may think of our new electronic world, it does seem to stimulate a sense of community. This may sound strange when we recall radio's disembodied voices and the detached and artificial images on the silent screen. But, as John Platt of the University of California recently reminded us, TV's images and voices

> represent a world larger and older than the family or the village might--stretching to Washington or to the moon--or years into the vanished past. And, with habit, they become real and more important than the family, as the war comes nightly to our dinner table and we all walk on the moon together or attend the Kennedy funeral.

* * *

Students are learning outside the classroom in other ways as well.

My National Geographic--which gave me glimpses of the outside world--has today been smothered by an avalanche of publications--some good, some bad--which open up new worlds to students.

In 1948, the year Harry Truman defeated Dewey, the New York Times index ran 1,211 pages. By 1970 the total had soared to 2,291 pages. More than 2,000 large, closely printed pages are now required merely to list by author, title, and subject the paperback books currently in print.

The point is this: Paperbacks, magazines, television, and travel now compete on equal footing with the classroom and the book.

Today--for better or for worse--Archie Bunker is better known than Silas Marner, Fellini is more influential than Faulkner, and the six o'clock news is more compelling than the history text.

What are we to make of all of this? Well, it seems quite clear that in the days ahead not only will colleges and universities have students of many different ages coming back to campus, we'll also have campuses in many different places.

Increasingly, businesses and industry and social services will give their employees time off to go back to college. We'll have more classes in the buildings where the people work. And we'll have more mature students engaged in independent study.

In the decade just ahead formal education also will increasingly be linked to television, to the library, and to travel. We will begin to use these "other" learning centers as supplements to the classroom, and view them as enrichments rather than a threat.

All of this means that our schools and colleges, while protecting their intellectual freedom, cannot stand alone. These institutions are woven into the social fabric of the Nation, and they must become engaged.

I'm convinced we <u>can</u> modify our academic schedules. We <u>can</u> expand the campus to meet the changing needs of students. We <u>can</u> enrich the classroom and the book--while still promoting academic excellence, which is absolutely vital.

Secretary Califano has been giving great leadership to education and to HEW overall. From his position he sees just how closely education is related to health, to work, and to the urban problem.

These social issues are our problems, too. Secretary Califano will be suggesting major new collaborative relationships in his remarks tonight and in days ahead.

III

One final point. Because of our changing social context and our changing students, I believe that education must become more purposeful.

When Sputnik was fired into space 20 years ago our educational purposes--for one fleeting moment--seemed absolutely clear.

The Air Force Chief of Staff said:

> The security of our Nation . . . depends as much on the wisdom and skill of our engineers, scientists, and technicians as it does upon the courage of our fighting men.

And Franklin Murphy, Chancellor of the University of Kansas, said:

> The message which this little ball carries to Americans, if they would but stop and listen, is that in the last one half of the 20th century nothing is as important as the trained and educated mind.

Twenty years ago, the goal of education was trained intelligence. Our specific purpose was to get our own Sputnik into the sky! But today we've won that race, and we now are groping for a more enduring, a more fundamental mission.

Here I should insert a word of caution. In one sense American education does have a common strategy today. Our goal is "individualism." Our aim is to see to it that the individual differences of students are fully served.

This goal, of course, is absolutely valid. We must continue to expand access to our colleges and schools. We must overcome the racial prejudices, the sexual stereotypes, and the insensitivities toward the handicapped. We must recognize the uniqueness of every student. We must push for creativity, not conformity, on the campus.

These goals must not be diminished.

But access reflects the means of education, not its end, and, once the school door has been opened to all students, we are still left with a nagging question: Does education have a larger social purpose to fulfill? And, more specifically, do educators have a clear vision of what it means to be an "educated person"?

Two months ago, a Psychology Today story about the "new mood on campus" suggested that colleges at their very best should be more than a gathering place for isolated learners. It was reported that students--some, at least--do expect colleges to have purposes of their own and do believe that a core curriculum would improve the current "hodgepodge," as one student put it.

Let me make the point as clearly as I can. I believe that a curriculum with no common core, no central thrust, is just as flawed as one which is absolutely rigid. When a college has no clear conviction about the goals of education, this reflects--not progress--but a loss of nerve. It's just as wrong to teach that we have no individual differences as it is to teach that we have no things in common.

I do not propose that every school or college declare a single creed or freeze in place a rigid set of courses. We've had too much carbon copy thinking in the past.

What I do propose is that we begin to search together for a new common core of study, one that draws upon the traditional and emerging academic disciplines in order to focus on those experiences we share in common.

And I happen to believe that there is a readiness for such a quest. Even the back-to-basics movement--at its very best--seeks a closer relationship between what we teach and the Nation's broader social goals.

IV

In our quest for this new common vision--which, incidentally, can and should take many different forms--I'd like to return to Sputnik one more time.

In 1957, we all stood on Earth and watched a satellite hurling through space. Our perspective was revolutionized. We felt differently about each other and about our future.

Now, two decades later, again we watch a small and fragile object out in space. This time, as we look back upon ourselves through television, the silver ball we see is Spaceship Earth.

Once again our perspective has been changed. From this more sobering vantage point, the old artificial barriers are less visible, and our new perspective is both more personal and more global.

From this perspective we confront more fundamental questions:

Where will we get our food, and how can it be appropriately distributed?

What about our energy supply, and how can it be equitably shared?

How can we reduce the poisions in the atmosphere?

What about our energy supply, and how can it be equitably shared?

How can we reduce the poisions in the atmosphere?

And, can we have a proper balance between population and the life-support system of this planet Earth?

These are a few of the transcendent issues which today's young people--and all of us--must begin to think about and talk about with great care.

Several years ago, at a seminar in the ancient Persian city of Persepolis, John Gardner said:

> Our planet is but a speck of dust in the universe, and our life on it is but an instant in the long stretch of astrophysical time. Still, it is the only planet we have, and our life on it holds great possibilities of beauty and dignity and meaning. Yet if it were asked of us how we spend our instant of time on our speck of dust, we would have to say, 'We spend a good deal of it fighting one another and laying waste our Earth.'

"Surely," Gardner went on to say, "all of us here believe that we can do better."

I happen to believe that our schools and colleges will--as they have always done--adjust themselves responsibly to the changing conditions of our world and educate our students to live with both civility and constraint.

Thanks very much for inviting me here today.

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